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REMARKS/ARGUMENTS

This is in response to the Patent Office communication mailed 08/11/2006 (the Office Action). Claims 7-15 are withdrawn in view of applicants' earlier election and, as a result, claims 1-6 and 16-18 were substantively examined. Applicants have canceled claims 2, 6 and 17. Applicants have presently amended all remaining claims 1, 3-5, 16 and 18.

The Office Action rejected claims 1-6 and 16-18 under 35 U.S.C. 103(a). More particularly, the Office Action: rejected claims 1, 4 and 16 as being unpatentable over USPN 6,278,916 to Crombez ("Crombez"); rejected claims 2-3 and 5 as being unpatentable over Crombez in view of US Patent Application Pub. 2001/0008988 to Russell et al. ("Russell"); and, rejected claims 6, 17 and 18 as being unpatentable over Crombez (as applied to claims 1, 4 and 16) and further in view of USPN 6,058,347 to Yamanura et al. ("Yamanura") and USPN 6,161,641 to Fukumura et al. ("Fukumura").

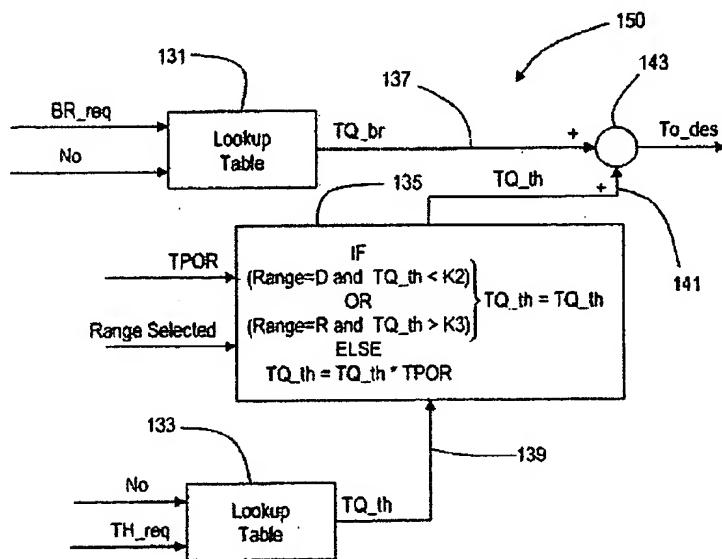
Applicants have amended independent claims 1 and 16 in an effort to more particularly distinguish the invention over the cited references. Claims 2, 6 and 17 have been canceled. Amendments to claims 3-5 and 18 are offered for the same reason and also are simply necessary to ensure their definiteness in view of the amendments to the respective ones of claims 1 and 16 from which they directly or indirectly depend.

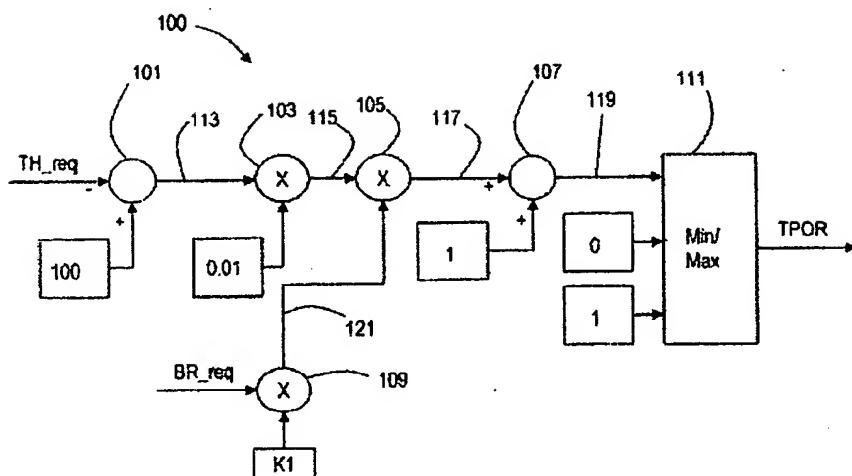
The present invention generally relates to a vehicular powertrain (11) including an output member (64). A control generally determines the output torque at the output member (64) in accordance with a desired resultant output torque. The desired output torque is derived from torque requests, such as from throttle and brake pedal actuations. It can be appreciated that such requests may be competing and require arbitration in order that a net or resultant output torque is satisfactorily established in accordance with torque requests from such different sources. Therefore, in accordance with the present invention, and as set forth for example in claim 1 as amended and repeated herein immediately below without markups for convenience:

1. Method for establishing a resultant output torque control term for an output member of a powertrain for use in a powertrain control comprising:

- providing a first output torque contribution term corresponding to a first torque request signal;
- reducing the first output torque contribution term in accordance with a first factor that varies inversely with said first torque request signal; and,
- combining the reduced first output torque contribution term with at least one other output torque contribution term to establish said resultant output torque control term.

As illustrated in figures 4 and 6 of applicants' application (reproduced immediately below for convenience), an exemplary embodiment is disclosed including: a first output torque contribution term (TQ_{th} , 139) corresponding to a first torque request signal (TH_{req}); reducing the first output torque contribution term ($TQ_{th} \cdot TPOR$ where $0 < TPOR < 1$) in accordance with a first factor that varies inversely to said first torque request signal (see inverted signal line 113, figure 4 and para. [0033] at lines 16-20); combining (node 143) the reduced first output torque contribution term ($TQ_{th} \cdot TPOR$, 141) with at least one other output torque contribution term (e.g. TQ_{br} , 137) to establish said resultant output torque control term (To_{des}).





Crombez on the other hand is not concerned with a system of torque arbitration as embodied in claim 1 in establishing a resultant output torque term. Crombez is concerned with managing regenerative brake torque in electric or hybrid electric vehicles. And, Crombez proposes merely limiting the motor torque based on some limit factors. More specifically, Crombez discloses processing steps performed by a controller (PCM, 12) including receiving throttle request data 20 (i.e. throttle pedal position) and calculating torque request data 54 corresponding thereto. Torque limiting factor data 18 are also received by PCM 12 and used to modify the torque request from the accelerator pedal to impose limitations on the torque request and cause *attenuation of the motor drive torque*. Examples of these torque limiting factor are specifically recited as source current limits (e.g. battery SOC), temperature and vehicle speed. (see e.g. col. 5, l. 63 - col. 6, l. 31; fig. 2, block 44). Clearly, *the torque limiting factors of Crombez are not related to a first factor that varies inversely with the first torque request signal itself* (i.e. throttle request data 20). Rather, it appears that the limiting factors are concerned with motor and electrical related considerations which is reasonable given Crombez's application specifically to motor control (see, e.g. col. 3, lines 1-3; col. 5, lines 20-22; col. 6, lines 19-23; col. Col 6, lines 63-67; col. 7, lines 6-10; figure 1, number 28; figure 2, block 92; etc.). Crombez simply misses the mark regarding the specific limitations recited in applicants' claim 1, particularly with respect to a *first factor that varies inversely with the first torque request signal*. And, Crombez misses the mark in its application of its disclosed torque controls specifically to a motor in as much

as applicants' claim 1 recitations specifically relate to establishment of resultant output torque control term *for an output member of a powertrain*. Furthermore, it is pointed out that nowhere in Crombez is there disclosed further including reducing the first output torque contribution term in accordance with *a second factor that varies proportionally to a second torque request signal* as set forth in claim 3 which depends from claim 1, nor the more particular recitations set forth in claims 4 and 5 depending directly or indirectly from claim 1.

Applicants have made bonafide effort at removing any colorable basis for the rejection of claims 1 and 3-5 based in whole or in part upon the disclosure of Crombez. Hence, applicants believe that further distinguishing over the additional cited art in combination with Crombez is not warranted nor required.

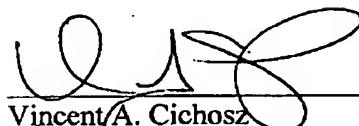
Applicants have also amended claim 16 which now recites the distinguishing limitation respecting *powertrain output member torque* and further recites the distinguishing limitation respecting application of *a variable gain to the throttle torque contribution term that generally a) trends in one direction as a throttle request trends larger and b) trends in an opposite direction as a brake request trends larger*. Such limitations cannot be identified, taught or suggested in the cited references, alone or in combination, arranged as in applicants' claims.

Therefore, in view of the amendments and remarks contained herein, applicants respectfully request reexamination of the pending claims 1, 3-5, 16 and 18 and favorable ruling on their allowance.

If the Examiner has any questions regarding the contents of the present response he may contact applicants' attorney at the phone number appearing below.

Any fees associated with this response may be charged to General Motors Deposit Account No. 07-0960.

Respectfully submitted,



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12 of 12